WHAT IS CLAIMED IS:

1.   A gatekeeper cluster comprising:

one zone divided into at least two sub-zones in a communication system;

at least one alternative gatekeeper providing redundancy for each sub-zone;

and

at least one route providing redundancy for a pass between the sub-zones,

wherein the redundancy provides a dispersion function based on a backup

function.

2.   The gatekeeper cluster of claim 1, wherein the alternative gatekeeper provides redundancy by one master gatekeeper and at least one standby gatekeeper, the master gatekeeper by itself operating as the gatekeeper of the sub-zone thereof.

3.   The gatekeeper cluster of claim 1, wherein the gatekeepers of each sub-zone have a zone routing table.

4.   The gatekeeper cluster of claim 3, wherein the zone routing table determines to which zone a call is routed with reference to a telephone number of a callee, when there is no desired number in the zone managed by the gatekeeper.

5.   The gatekeeper cluster of claim 3, wherein the zone routing table contains a gatekeeper identifier used for authentication during signaling between the sub-zones, a zone

prefix representing a number schedule of each sub-zone, a gatekeeper type indicating any one of the alternative gatekeeper and the gatekeeper of a neighbor zone, and a priority representing a priority of the alternative gatekeepers.

6.   The gatekeeper cluster of claim 5, wherein the gatekeeper identifier is equally given to all the alternative gatekeepers within any one of the sub-zones.

7.   A method for operating a gatekeeper cluster, comprising:

dividing one zone into at least two sub-zones in a communication system;

providing first redundancy of at least one alternative gatekeeper for each sub-zone; and

providing second redundancy of at least one route for a pass between the sub-zones,

wherein the redundancy provides a dispersion function based on a backup function.

8.   The method of claim 7, wherein the alternative gatekeepers provide redundancy by one master gatekeeper and at least one standby gatekeeper, the master gatekeeper by itself operating as the gatekeeper of the sub-zone thereof.

9.   The method of claim 8, wherein the redundancy of the alternative gatekeepers comprises, when the master gatekeeper receives an arbitrary request (xRQ) message from a

terminal, searching an alternative type gatekeeper in a routing table, encoding the searched alternative type gatekeeper, transmitting an arbitrary confirm (xCF) message to the terminal, and setting up a call.

10. The method of claim 8, wherein the redundancy of the alternative gatekeepers comprises, when the standby gatekeeper receives an arbitrary request (xRQ) message from a terminal, performing heartbeat signaling for master polling in order to check whether the master gatekeeper operates normally.

11. The method of claim 10, wherein the heartbeat signaling comprises:

at the standby gatekeeper, generating an information request (IRQ) message, transmitting the generated information request message to the master gatekeeper, and checking whether or not there is a response from the master gatekeeper;

if there is any response, at the standby gatekeeper, searching an alternative type gatekeeper in a routing table to encode the searched alternative type gatekeeper and transmitting an arbitrary reject (xRJ) message to the requesting terminal;

generating an arbitrary request (xRQ) message at the terminal receiving the arbitrary reject (xRJ) message, transmitting the generated arbitrary request (xRQ) message to the master gatekeeper, and requesting to set up a call; and

generating an arbitrary confirm (xCF) message at the master gatekeeper receiving the arbitrary request (xRQ) message, transmitting the generated arbitrary confirm (xCF) message to the terminal, and setting up the call.

12.   The method of claim 11, wherein the routing table contains a gatekeeper identifier used for authentication during signaling between the sub-zones, a zone prefix representing a number schedule of each sub-zone, a gatekeeper type indicating any one of the alternative gatekeeper and the gatekeeper of a neighbor zone, and a priority representing a priority of the alternative gatekeepers.

13.   The method of claim 11, wherein the heartbeat signaling further comprises, if there is no response, the standby gatekeeper being changed into the master gatekeeper, searching the alternative type gatekeeper in the routing table, encoding the searched alternative type gatekeeper, transmitting the arbitrary confirm (xCF) message to the terminal, and setting up the call.

14.   The method of claim 13, wherein the heartbeat signaling further comprises;

at the gatekeeper changed into the master gatekeeper, transmitting the arbitrary confirm (xCF) message to grant registration of the terminal, generating a Nonstandard message and transmitting the generated Nonstandard message to other gatekeepers;

when the gatekeeper having already operated as the master gatekeeper among the other gatekeepers receives the Nonstandard message, comparing a time of the gatekeeper itself with a time of the Nonstandard message; and

if the time of the gatekeeper itself is faster than the time of the Nonstandard message, at the gatekeeper having already operated as the master gatekeeper, generating the Nonstandard message, transmitting the generated Nonstandard message to the gatekeeper changed into the master gatekeeper, and changing into the standby gatekeeper again.

15. The method of claim 14, wherein transmitting the Nonstandard message comprises:

recording a time when the alternative gatekeeper is changed into the master gatekeeper, and

informing the other gatekeepers of the recorded time using the Nonstandard message.

16. The method of claim 14, wherein the heartbeat signaling further comprises:

generating the arbitrary request (xRQ) message at the terminal receiving the arbitrary confirm (xCF) message, transmitting the generated arbitrary request (xRQ) message to the gatekeeper changed into the master gatekeeper, and requesting to set up the call; and

when the gatekeeper changed into the master gatekeeper is recognized to be the standby gatekeeper to be changed into the standby gatekeeper again and receives the arbitrary request (xRQ) message, performing again the heartbeat signaling for master polling.

17. The method of claim 7, wherein the redundancy of the route comprises:

when the first gatekeeper of the first sub-zone receives the arbitrary request (xRQ) message from the caller terminal of the first sub-zone, checking whether or not a callee number exists in the first sub-zone;

if the callee number does not exist in the first sub-zone, at the first gatekeeper, transmitting the arbitrary request (xRQ) message to the second gatekeeper of the second sub-zone with reference to the zone routing table;

when the second gatekeeper is the master gatekeeper, generating the arbitrary confirm (xCF) message, transmitting the generated arbitrary confirm (xCF) message to the first gatekeeper, and authenticating the caller terminal;

at the authenticated caller terminal, generating a set-up message and transmitting the generated set-up message to the callee terminal of the second sub-zone through the first gatekeeper;

at the callee terminal, generating the arbitrary request (xRQ) message and transmitting the generated arbitrary request (xRQ) message to the first gatekeeper through the second gatekeeper;

at the first gatekeeper, generating the arbitrary confirm (xCF) message containing signaling information of the first gatekeeper and transmitting the generated arbitrary confirm (xCF) message to the callee terminal through the second gatekeeper;

at the callee terminal, generating an alerting message and transmitting the generated alerting message to the caller terminal through the second and first gatekeepers;

at the callee terminal, generating a connect message and transmitting the generated connect message to the caller terminal through the second and first gatekeepers; and

transceiving H.245 signaling between the callee terminal and the second gatekeeper, between the second gatekeeper and the first gatekeeper and between the first gatekeeper and the caller terminal to allow carrying on a conversation with each other.